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**Vazquez et al.**

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(54) **CREDENTIAL TRACKING**

(56) **References Cited**

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U.S. PATENT DOCUMENTS

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6,477,645	B1 *	11/2002	Drews	713/168
7,216,109	B1 *	5/2007	Donner	705/64
8,295,855	B2 *	10/2012	Narayan et al.	455/456.3
2003/0069829	A1 *	4/2003	Gathman et al.	705/37
2004/0054726	A1 *	3/2004	Doss et al.	709/205
2010/0082491	A1 *	4/2010	Rosenblatt et al.	705/65
2013/0030964	A1 *	1/2013	Nuzzi et al.	705/30
2013/0200999	A1 *	8/2013	Spodak et al.	340/5.65
2013/0260717	A1 *	10/2013	Miyaki	455/411

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\* cited by examiner

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(57) **ABSTRACT**

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In one implementation, a credential associated with a user identifier and a location is stored at a client device. A request to output a representation of the credential in a manner that enables a credential authority to validate the representation is received. Responsive to receiving the request to render the representation of the credential, a location of the client device is obtained and a determination that the location of the client device is within a predefined distance of the location associated with the credential is made. Responsive to determining that the location of the client device is within the predefined distance of the location associated with the credential, data indicating that the user has entered the location associated with the credential is stored in a memory of the client device.

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(52) **U.S. Cl.**  
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713/176

(58) **Field of Classification Search**  
USPC ..... 726/1, 6; 713/168  
See application file for complete search history.

**20 Claims, 4 Drawing Sheets**

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